

WHAT IS CLAIMED IS:

1. A device for partially occluding an expiratory airway in a patient, the device comprising: a frame implantable within a trachea or bronchial passage; and means on the frame for increasing flow resistance to expiration.
2. The device of claim 1 wherein the means selectively increases flow resistance to expiration while increasing resistance to inspiration to a lesser extent.
3. The device of claim 2 wherein the means comprises a flow responsive element which opens to inspiration and closes to expiration.
4. The device of claim 1 wherein the means comprises a fixed element.
5. A device for enhancing breathing in a patient suffering from chronic obstructive pulmonary disease, the device comprising: a mouthpiece for holding in the patient's mouth; and means on the mouthpiece for increasing flow resistance to expiration while permitting inspiration with reduced resistance.
6. A method for treating patients suffering from chronic obstructive pulmonary disease, the method comprising: creating a resistance to expiratory flow in a tracheal or bronchial passage.
7. The method of claim 6 wherein the step of creating includes the step of implanting a flow resistor in the trachea or bronchial passage.
8. The method of claim 7 wherein the flow resistor comprises an implantable frame and means on the frame for selectively increasing flow resistance to expiration.
9. The method of claim 6 wherein the step of creating includes the step of applying energy to the trachea or bronchial passage to partially occlude the lumen of the passage.
10. A device that partially occludes an expiratory airway in a patient, the device including a flow resistance element implantable within one of the trachea and a bronchi of the patient.
11. The device of claim 10 wherein the flow resistance element provides a first flow resistance to inspiration and a second flow resistance to expiration, the second flow resistance being greater than the first flow resistance.

12. The device of claim 10 wherein the flow resistance element comprises a valve.

13. The device of claim 12 further including a frame that supports the valve.

14. The device of claim 10 wherein the flow resistance element provides a first flow resistance to air flow from proximal airways to distal airways, a second flow resistance to first air flow from distal airways to proximal airways, and a third flow resistance to second air flow from distal airways to proximal airways, wherein the second flow resistance is greater than the third flow resistance and the second airflow from distal airways to proximal airways is greater than the first airflow from distal airways to proximal airways.

15. The device of claim 14 wherein the third flow resistance is greater than the first flow resistance.